



September 17, 2020

**VIA IBFS**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12th Street S.W.  
Washington, D.C. 20554

**Re: *Ex Parte* Communication, File No. SAT-MOD-20200417-00037<sup>1</sup>**

Dear Ms. Dortch:

Kuiper Systems LLC, a wholly owned subsidiary of Amazon.com Services LLC (collectively, “Amazon”), files this letter to request that Space Exploration Holdings, LLC (“SpaceX”) provide additional details about its orbital tolerance capabilities and commit to a solution to avoid overlap with the licensed Kuiper System and alleviate the space safety concerns<sup>2</sup> raised regarding the redesign of SpaceX’s satellite constellation.<sup>3</sup>

SpaceX recently indicated in a presentation made to Commission staff that it “will not fly all satellites in orbits overlapping with Amazon . . . .”<sup>4</sup> Amazon appreciates SpaceX’s statement and hopes that further transparency and commitment from SpaceX can address the lingering space safety concerns that prevent action on the Third Modification. SpaceX has already stated that “most” of its satellites “will operate within much less than 30 km of their nominal altitude most of the time”<sup>5</sup> but does not quantify “most” or “much less.” SpaceX has also stated that: “Except in unusual cases, SpaceX satellites move in the same pattern during their orbits, such that all orbital shells are at maximum altitude over the same portion of the Earth and at minimum altitude over another portion of the Earth, so that as a practical matter there is relatively little variation from nominal separation between satellites in planes at different nominal altitudes.”<sup>6</sup>

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<sup>1</sup> Unless otherwise noted, all documents cited herein were filed in reference to IBFS File No. SAT-MOD-20200417-00037.

<sup>2</sup> See, e.g., Petition to Deny and Comments of Kuiper Systems LLC, at 2-13 (filed July 13, 2020) (“*Amazon Petition*”); Petition to Deny or Defer of Viasat, Inc., at 9-11 (filed July 13, 2020); Comments of OneWeb, at 4 (filed July 13, 2020); Comments of Spire Global, Inc., at 2 (filed July 13, 2020).

<sup>3</sup> Application of Space Exploration Holdings, LLC for Modification of Authorization for the SpaceX NGSO Satellite System (filed Apr. 17, 2020) (“*Third Modification*”).

<sup>4</sup> Letter from David Goldman, Dir. of Satellite Policy, SpaceX, to Marlene H. Dortch, Secretary, FCC, at Starlink Update exhibit, 5 (filed Sept. 14, 2020).

<sup>5</sup> Consolidated Opposition to Petitions and Response to Comment of Space Exploration Holdings, LLC, at 10 (filed July 27, 2020).

<sup>6</sup> *Id.* at 7, n.13.

It seems SpaceX has already conducted the analyses required to provide the Commission with more granular information on its anticipated satellite altitude variations in the new configuration proposed by the Third Modification. SpaceX should make this information publicly available.<sup>7</sup>

Further, SpaceX should respond to the following two questions<sup>8</sup> and make the following commitments:

- Will SpaceX affirm its ability to limit its orbital tolerance so as not to overlap with the licensed Kuiper System and commit to doing so?
- If SpaceX is not capable of limiting its orbital tolerance, will SpaceX commit to limiting the highest nominal altitude of its modified system to 550 km?

If SpaceX is unable or unwilling to commit to a solution, based on the information currently on the record, the Third Modification must be denied given the space safety concerns articulated by multiple commenters.<sup>9</sup>

Additionally, even if the space safety concerns articulated in the record can be overcome, the Third Modification should nevertheless be treated as a new application in the 2020 Processing Round. As Amazon previously explained, the system redesign proposed by the Third Modification would significantly worsen the NGSO FSS interference environment for the licensed Kuiper System and other operators in both the 2016 and 2020 processing rounds.<sup>10</sup>

Amazon looks forward to increased transparency from SpaceX regarding its redesigned satellite constellation and welcomes SpaceX's pending explanation of its orbital tolerance capabilities and commitment to reasonable and safe altitude maintenance.

Respectfully submitted,

/s/ **Mariah Dodson Shuman**

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Kuiper Systems LLC,  
an Amazon subsidiary

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<sup>7</sup> See *Orbital Debris in the New Space Age*, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd 4156, ¶ 48 (2020) ("As part of the disclosure of system characteristics, we note that some applicants for large systems may be asked to provide a description of the planned orbital variance, and the relationship of that variance to the system's technical capabilities and operational requirements (e.g., ability to avoid collisions). . . . If operators require a large orbit variance for their system, particularly if this might substantially constrain operations by other systems, they should plan to describe why and explain whether other less impactful alternatives were considered.").

<sup>8</sup> See *Amazon Petition*, at 12-13.

<sup>9</sup> See *supra* note 2.

<sup>10</sup> See *Amazon Petition*, at 13-29.